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ABSTRACT

The costs of education have continued to rise at a rapid rate. Population growth, mobility, and the demand for increased education have caused school districts to issue bonds in support of new facilities and to raise taxes to meet daily operating expenditures. Year-round educational programs require thorough analysis from capital, operational, and public support points of view. Losses and gains in each of these areas must be determined by comparison with the traditional 9-month school. (Author)

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THE EFFECTS OF YEAR-ROUND EDUCATION ON COSTS AND PUBLIC SUPPORT:

The Economics and Politics of a Time Voucher

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The Economics and Politics of a Time Voucher

Introduction

This paper will consider two types of costs involved in implementing year round education. The first of these costs can be externally observed. These costs are usually savings in resources that are priced in the market (e.g., capital facilities). The second type of costs incurred are termed opportunity costs. Opportunity costs can be defined as the sacrifice of the next best alternative in decisions which require a choice between mutually exclusive alternatives. These costs are seldom capable of being measured by an external observer. They are costs that only the individual choser is able to calculate when making choices since he is the only one aware of his full opportunity set. The focus of this paper will center on the opportunity costs of year round education when put in a setting of a mutually exclusive choice such that year round education automatically eliminates the traditional nine month school alternative. Time vouchers are introduced as a means of minimizing individual opportunity costs. Time vouchers are also considered in terms of collective decision making and research design.

External Measurable Costs

Year-round education (YRE) encompasses a variety of plans which basically are designed to provide full-time utilization of

facilities, equipment, and personnel. We shall not consider year round education plans which collapse the traditional twelve vear time expenditure for a diploma to something less than twelve years (e.g., ten years). This plan would have potential cost savings in the long run with no immediate savings in the short run. We are considering YRE plans that maintain the normal 180 days but change the calendar from the conventional September to June period. An example of this type of plan is the 45-15 plan where alternating class cohorts attend school for 45 days and are off 15 days so that facilities are utilized year round.

Let us first consider salaries. Assume student/teacher ratios do not change with the introduction of YRE. Also, assume that teachers on a twelve month contract will be paid 25% more than teachers on a nine month contract. Therefore, a 25% reduction in the number of teachers that is attained under YRE will be offset by a 25% increase in the salaries of remaining teachers resulting in zero savings. Similar wage adjustments in administrative, supervisory, and maintanence staff are likely to lead to little or no cost savings from YRE.

The principle cost savings argument for YRE is in terms of savings in capital costs. The case for YRE education on a capital facilities savings argument was stronger in the 1960s than it is in the 1970s. The decade of the sixties experienced the passing of the post World War II baby boom through the public school system. Total

national enrollment (K-12) in 1959 was 41 million and increased to 51 million in 1969. This represented an average growth rate of one million students annually. However, the decade of the 70's will experience an overall zero growth rate in terms of K-12 with elementary enrollment declining slightly with secondary enrollment increasing slightly.[1] If fertility patterns continue their present trend the 1980s may experience an absolute decline in total enrollment.

Of course, many individual districts may experience rapid demands for new facilities due to migration patterns. In addition, capital facilities do depreciate thus a YRE plan may afford savings in rennovation expenditures. Therefore, there may be substantial capital cost savings for some districts. However, it is questionable whether YRE should be considered as a national policy plan.

There are, of course, many other specific costs (e.g., air conditioning, other capital costs, desks, books, etc.) that will not be considered here. In summary, there appears to be no signific savings in personnel costs, by far the most significant factor in costs. Some potential savings in capital facilities is likely to result from YRE. Existing cost studies of districts that have implemented YRE indicate some districts have increased costs while others have decreased costs.

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[1] Projection of Educational Statistics to 1979-80, National Center for Educational Statistics, U.S. Government Printing Office, 1970, p. 4.

The relevant variable in considering YRE is not necessarily the change in costs but rather the cost effectiveness of YRE. Cost effectiveness requires a definition of output. A priori there is little reason to expect a change in output (e.g., students' achievement levels) from YRE. Numerous studies have shown that per pupil costs do not significantly affect student achievement when factors such as the students socio-economic status are controlled.[2]

Thus far we have only considered factors internal to the school system. However, YRE is likely to have a significant influence on individuals outside of the school system. We now turn to a consideration of these influences which may impose significant costs or benefits.

Opportunity Costs

The most significant impact of a YRE plan is on the reallocation of time on the part of students, parents, and teachers. We will emphasize this time allocation effect as it relates to parents. Time is clearly a scarce commodity to all of us. Individuals have preferences for the way their time is allocated. Similarly, individuals are

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[2] For surveys of such studies see: Kiesling, H. "Multivariate Analysis of Schools and Educational Policy," The Rand Corporation, Santa Monica, 1971 and Do Teachers Make a Difference: A Report on Recent Research on Pupil Achievement, Office of Education, Bureau of Educational Personnel Development, H.E.W. OE-58042, Washington, D.C. U.S. Government Printing Office, 1970.

constrained in their choice of how they may allocate their time. For example, the traditional nine month plan allows parents of school age children considerable freedom of their activities during the school year, but at the same time constrains their activities during the summer. YRE would clearly change the opportunities to allocate time relative to the traditional nine month plan. Whether YRE is preferred over the traditional nine month plan is difficult to determine. We can think of two scenarios. Consider the first hypothetical example where both parents work. Assume they are not able to obtain baby sitters at periodical fifteen day intervals. Or alternatively they are able to obtain baby sitters but of an inferior quality or higher costs relative to baby sitters they are able to employ for the whole summer. Let us say in addition they <u>believe</u> the traditional nine month system is more effective in terms of their child's learning capability. If given a choice they would clearly not choose YRE.

The other scenario is where parents desire to take vacations throughout the year. In addition, they believe a 45-15 plan is the most effective learning method for their child. If given a choice they would choose YRE and attain a higher level of satisfaction. We can think of an infinite number of scenarios which are a function of individual preferences and opportunities. It is axiomatic in economics that individual preferences and opportunity sets are different. This infinite set can be dichotomized into those who prefer YRE and those who

do not. If all parents within a district either prefer YRE education or prefer the traditional nine month plan, there is no choice problem. However, let us consider the most probable case where some parents prefer the YRE plan and other parents prefer the status quo (nine month plan). Let us assume that there are savings in capital costs. How do we evaluate the costs imposed on parents that prefer the status quo? If YRE is imposed upon these parents they clearly suffer a real cost that must be considered as any other cost. The cost savings that may be realized through capital savings must be offset by the costs incurred by parents who oppose YRE. Similarly, how do we evaluate the benefits of YRE to those parents who prefer YRE. The argument is fully symmetrical. If the traditional nine month plan is imposed, those parents who prefer YRE incur a cost. Again the question becomes how we evaluate these costs and benefits that are difficult to measure from an external observers position. Some may suggest that we simply ask parents to put a value on the benefits or costs of the two plans. This scheme is likely to lead to an overestimation of benefits and/or costs since there are incentives to not reveal ones true preferences.

Another suggestion may be to allow the political process to determine the outcome either through a referendum or voting on school board members who have different platforms. (Some candidates would run for and some against YRE). While an outcome is determined by a majority rule, the outcome still does not eliminate the costs imposed on the minority. It is also conceivable that the costs imposed on the minority are greater than the benefits received by the majority including

the potential cost savings available to all in the form of fuller utilization of facilities. The fallacy of the majority rule is of course the fallacy of the greatest good for the greatest number.

Up to this point we have considered YRE as an all or nothing choice which requires a mutually exclusive choice among two alternatives. We have assumed that the adoption of YRE required the sacrifice of the traditional nine month plan and vice versa. We now introduce the time voucher which eliminates the necessity of making mutually exclusive choices for the collectivity in a district.

Time Voucher

It is also axiomatic in economics that more alternatives are preferred to less. A time voucher is essentially a scheme which allows parents a choice among one or several variants of the YRE as well as a choice of the status quo (traditional September-June nine month plan).[3] The plan may be implemented in either one school or among several schools organized on differing time plans. A "time voucher" eliminates the problem of attempting to evaluate costs imposed on the minority since unanimity should be obtained under a time voucher scheme. Thus, it follows that if parents are allowed to choose between the status quo (traditional nine months) or a YRE plan they cannot be

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[3] There is obviously a limit to the feasible number of alternatives offered. At the extreme, the number of alternatives that could be theoretically offered is $\frac{n!}{r!(n-r)!}$ where n=365 days and r=180 days.

considered worse off (i.e., choose status quo) and some may be better off (i.e., choose YRE). Moreover, YRE is likely to be more politically feasible since no one is made worse off and minority preferences are represented.[4] Local parental support for school funding is also likely to be more favorable under a time voucher. Many studies use limited partial analysis by examing only the effects internal to the school. It is often overlooked that parent-taxpayers are the revenue source for school expenditures. If costs are imposed on parent-taxpayers by school policies, the likely effect will be a decrease in demand for school services as well as budgets.

One objection that may be raised against a time voucher is that it would diminish the potential cost savings of YRE since the traditional nine month plan would be coexistent with YRE. Another may be that scheduling and administrative costs would increase. These additional costs are offset by the benefits that parents receive from an increase in alternatives. Therefore, one could argue that parent-taxpayers who choose YRE should be willing to incur additional costs and still be in a preferred state relative to no alternatives.

Finally, there is an additional spillover benefit of the time voucher scheme. The co-existence of various YRE plans and the

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[4] It is interesting to note that many of the districts that offer YRE are simultaneously offering a variant of the time voucher.

traditional nine month plan would enable researchers to evaluate these alternatives while eliminating the effects of various district policies. This type of controlled research is not available when districts are on an all or nothing basis.

Conclusions

This paper has argued that there may be some potential capital cost savings from YRE. A priori, there is no reason to expect significant changes in student output levels. If parent-voter preferences are different then the potential capital cost savings may be more than offset by costs imposed on parents in the absence of a time voucher. Without further research, the only positive statement one can make about YRE at this time is that a time voucher will make some parents better off and no one worse off. Therefore, it follows from the analysis that the time voucher should be an integral part of any YRE plan where the alternative of the status quo is still available to parents.